voltage electric machine according to the invention operates in an entirely different way from the conventional systems because such new apparatus may be directly connected to the transmission and distribution lines contrary to conventional arrangements in Figs. 1-3. In any event, it is believed that the combination asserted by the Examiner does not disclose the invention.

Shildneck describes a conventional low voltage, high current machine. As such, the design of the machine in Shildneck does not consider the problems that exist in high voltage machines such as partial discharge. Shildneck does not in any way suggest the desirability of increasing the voltage. Indeed, Shildneck does not even mention high voltage applications.

The operation of Shildneck is inherently limited due to the use of an insulator as an outermost layer of the winding in combination with the openings in the stator (*see* col. 3, line 73 through col. 4, line 2). It is clear that electric charge will build up on the insulation material near the openings because the charge has nowhere to bleed off. Accordingly, Shildneck is configured for use only for low voltage operation. Otherwise, there will certainly be corona discharge, which will result in a deterioration of the insulation material.

Another indicator that Shildneck is convenient only for use at low voltages is the arrangement of the stator slots. As shown in Fig. 4, the machine of Shildneck provides for the stator slots to be arranged in a matrix, as opposed to radially (*see* Fig. 4). In order to achieve high voltages described in the machine according to the invention, many turns of the winding are required. If a winding with configuration according to Shildneck were used, it would be impossible to achieve the number of turns required without the stator becoming prohibitively large using a 1.25 "finished conductor (col. 4, line 46).

With respect to the Examiner's citation of Evans, it is respectfully submitted that the reference has nothing to do with high voltage electric machines. Evans describes a service

entrance cable (*see* the title). Evans provides three separate conductors 12 which provide each of three phases of power. Evans also provides for a common or neutral conductor 14. Evans is inappropriate as a winding in a machine. Further, the arrangement in Evans does not provide for insulated conductors and uninsulated conductors, but essentially provides for three separate cables, each with uninsulated conductors which are wrapped in an outer covering and form three separate circuit elements (*see* Fig. 1 and col. 2, lines 57-65). In the present invention, the cable is a single circuit element. The individual strands of the conductor in the cable are insulated from each other with one or more uninsulated strands which contact the inner layer to establish the equipotential surface. Evans does not provide such an arrangement nor is it suggested by the disclosure.

The Examiner in addition cites Elton '165. Elton discloses a cable. However, the cable in Elton is inappropriate for a winding in an electric machine. The cable in Elton is not flexible. It is formed of pyrolyzed glass tape in a resin. It becomes rigid when cured. If formed as a winding in a machine, the arrangement of Elton would crack and ultimately fail, particularly under high voltage operation.

The Examiner has also cited the so-called German specification which is in reality a UK specification to Siemens. The UK specification teaches that it is known to have a stator with decreasing radii in order to accommodate the winding conductors. However, the UK specification does nothing to overcome the problems associated with the disclosure of Shildneck, because it is not concerned with nor does it disclose high voltage operation of a machine. Further, Siemens does not employ a flexible cable which is threaded through the machine, but lengths of circular material.

Various combinations cited by the Examiner fail to solve the problems associated with an electric field in the end winding region. It is therefore respectfully requested that the Examiner withdraw the rejections and allow the claims as amended.

If filing this paper or any accompanying papers necessitates additional fees not otherwise provided for, the undersigned authorizes the Commissioner to deduct such additional fees from Deposit Account No. 04-2223.

Respectfully submitted,

John P. De Luca
Registration No. 25,505

DYKEMA GOSSETT PLLC
1300 I STREET N.W.
SUITE 300 W
WASHINGTON, D.C. 20005
(202) 906-8600

VERSION WITH MARKINGS TO SHOW CHANGES MADE

IN THE SPECIFICATION:

Please amend the paragraph beginning on page 23, line 18, as follows:

A rotating high-voltage single-winding/multiple-winding machine has as windings a cable, a preferred embodiment of which is shown in Figure 5. The cable 1 is described in the figure as comprising a current-carrying conductor 2 which comprises transposed both non-insulated and insulated strands. Electromechanically transposed, solid insulated strands are also possible. Around the conductor there is an inner semiconducting casing 3 which, in turn, is surrounded by a solid insulating layer 4. This layer is surrounded by a solid insulating layer 4. This layer is surrounded by an outer semiconducting layer 5. The cable used as a winding in the preferred embodiment has no metal shield and no external sheath. To avoid induced currents and losses associated therewith in the outer semiconductor, this may be cut off <u>into a number of parts</u>, preferably in the coil end, that is, somewhere in the transitions from the stack of sheets to the end windings. Each cut-off part is then <u>separately</u> connected to ground, whereby the outer semiconductor will be maintained at, or near, ground potential in the whole cable length. This means that, around the solid insulated winding at the coil ends, the contactable surfaces, and the surfaces which are dirty after some time of use, only have negligible potentials to ground, and they also cause negligible electric fields.

<u>IN THE CLAIMS</u>:

16. (Thrice Amended) The plant for generating high voltage power according to claim 15, wherein the first layer is [in electrical contact with and operative] at substantially the same potential as the conductor.

39. (Twice Amended) A plant for generating high voltage power including a rotating high voltage electric machine and a converter, the machine comprising a stator; a rotor and a winding, wherein said winding comprises a cable including at least one current-carrying conductor and [a magnetically permeable,] an electric field confining insulating cover surrounding the conductor, said cable forming at least one uninterrupted turn in the corresponding winding of said machine, said current carrying conductor including a plurality of insulated strands and at least one uninsulated strand in contact with the cover.

46. (Twice Amended) The plant according to claim 41, wherein the layers of the cover form a monolithic structure having the same temperature coefficient of expansion [such that the machine is operable at 100% overload for two hours].

Delete claim 47.

52. (Amended) A plant for generating high voltage power including a rotating high voltage electric machine and a converter, the machine comprising a stator; a rotor and a winding, wherein said winding comprises a cable including at least one current-carrying conductor and [a magnetically permeable,] an electric field confining insulating cover surrounding the conductor, a solid insulating layer surrounding the inner layer and a semiconducting outer layer surrounding the insulating layer, said cable forming at least one uninterrupted turn in the corresponding winding of said machine.